

Seaweed intake and the risk of thyroid cancer in women: The Japan Collaborative Cohort Study

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Abstract

Objective: Excessive intake of iodine has been suspected as a possible cause of thyroid cancer. Japanese iodine intake from edible seaweeds is reported to be among the highest in the world. Research on the relationship between iodine exposure and thyroid cancer risk is limited, and the findings are inconclusive. We examined the association between seaweed intake frequency and the risk of thyroid cancer in women in the Japan Collaborative Cohort (JACC) Study followed from 1988 to 2009.

Methods: Seaweed intake, together with other lifestyle-related information was collected using a self-administered questionnaire at baseline. Hazard ratios (HRs) and 95% confidence intervals (95% CIs) of thyroid cancer incidence were estimated using Cox proportional hazards regression. Seaweed intake frequency was divided into three categories: 1-2 times/month or less, 1-2 times/week, and 3-4 times/week or more.

Results: Ninety-four new cases of thyroid cancer were identified during 577,546 person-years of follow-up. Overall incidence rate was 16.3 per 100,000 person-years. Compared to non-cases, women who developed thyroid cancer tended to participate more in gynecological health check up (69.1% vs. 52.4%, $p = 0.005$), and were more likely to be null-gravida (9.6% vs. 4.2%, $p = 0.05$). The HR of thyroid cancer for women who consumed seaweed more than 3-4 times/week compared with 1-2 times/month or less = 1.70, 95% CI: 0.61 – 4.73, p for trend = 0.41. Adjustment for potential confounding variables and stratification by menopausal status provided materially the same results.

Conclusions: We found no convincing evidence that incidence of thyroid cancer increased by frequent seaweed intake regardless of reproductive and menstrual statuses of women.